



Volunteer Lake Assessment Program Individual Lake Reports

GOOSE POND, CANAAN, NH

MORPHOMETRIC DATA

Watershed Area (Ac.):	10,176	Max. Depth (m):	11	Flushing Rate (yr ⁻¹)	1.6
Surface Area (Ac.):	554	Mean Depth (m):	4.5	P Retention Coef:	0.6
Shore Length (m):	10,100	Volume (m ³):	11,296,500	Elevation (ft):	829

TROPHIC CLASSIFICATION

Year	Trophic class
1988	OLIGOTROPIC
2005	MESOTROPIC

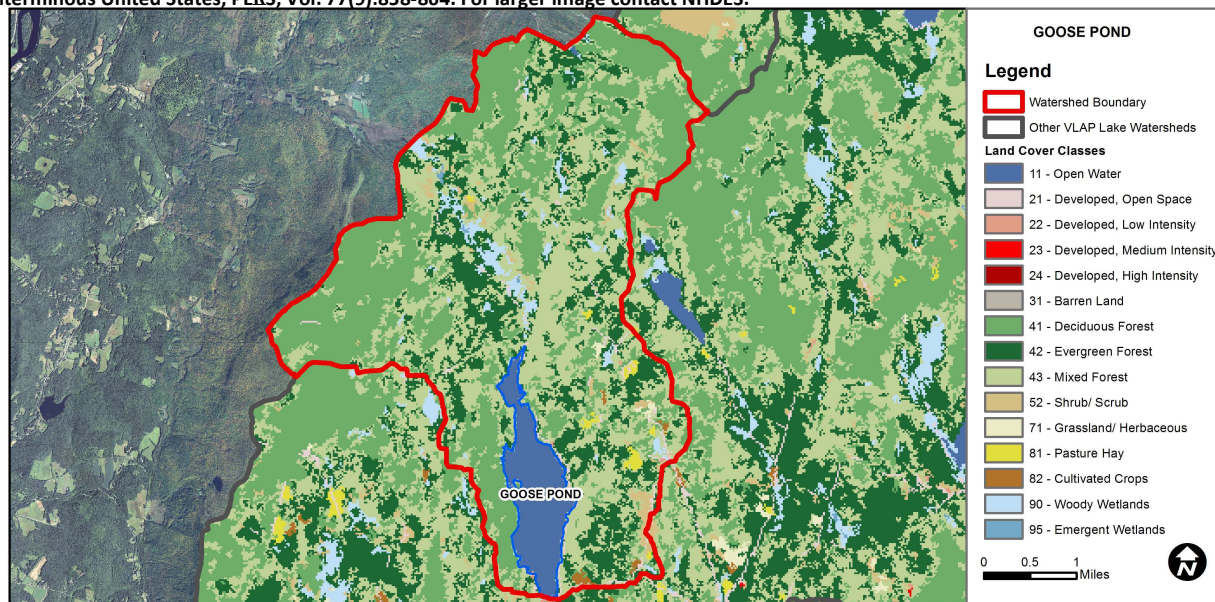
KNOWN EXOTIC SPECIES

The Waterbody Report Card tables are generated from the 2012 305(b) report on the status of N.H. waters, and are based on data collected from 2001-2011.

Designated Use	Parameter	Category	Comments
Aquatic Life	Phosphorus (Total)	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
	pH	Slightly Bad	>10% of samples exceed criteria by a small margin (minimum of 2 exceedances).
	D.O. (mg/L)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	D.O. (% sat)	Encouraging	< 10 samples and no exceedance of criteria. More data needed.
	Chlorophyll-a	Good	>=5 samples and median is < threshold but > 1/2 threshold value.
Primary Contact Recreation	E. coli	Very Good	All bacteria samples <75% of geometric mean criteria, but not enough to calculate geometric mean. Or, all bacteria samples are < single sample criteria and calculated Geometric means are less than geometric mean criteria.
	Cyanobacteria	Slightly Bad	Cyanobacteria bloom(s).
	Chlorophyll-a	Very Good	At least 10 samples with 0 exceedances of criteria.

WATERSHED LAND USE SUMMARY

Fry, J., Xian, G., Jin, S., Dewitz, J., Homer, C., Yang, L., Barnes, C., Herold, N., and Wickham, J., 2011. Completion of the 2006 National Land Cover Database for the Conterminous United States, PERS, Vol. 77(9):858-864. For larger image contact NHDES.



Land Cover Category	% Cover	Land Cover Category	% Cover	Land Cover Category	% Cover
Open Water	5.98	Barren Land	0	Grassland/Herbaceous	0.16
Developed-Open Space	1.04	Deciduous Forest	34.05	Pasture Hay	0.52
Developed-Low Intensity	0.06	Evergreen Forest	18.08	Cultivated Crops	0.26
Developed-Medium Intensity	0	Mixed Forest	35.68	Woody Wetlands	2.66
Developed-High Intensity	0	Shrub-Scrub	1.29	Emergent Wetlands	0.22



VOLUNTEER LAKE ASSESSMENT PROGRAM INDIVIDUAL LAKE REPORTS

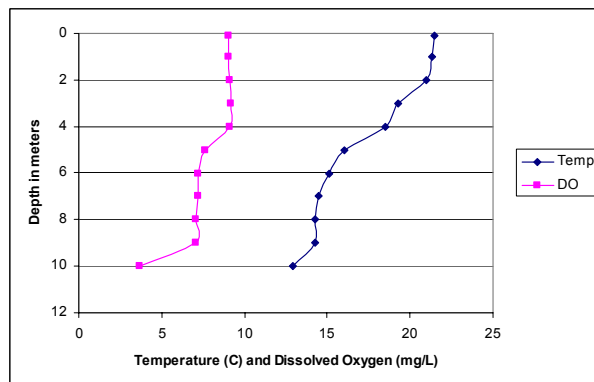
GOOSE POND, CANAAN, NH

2012 DATA SUMMARY

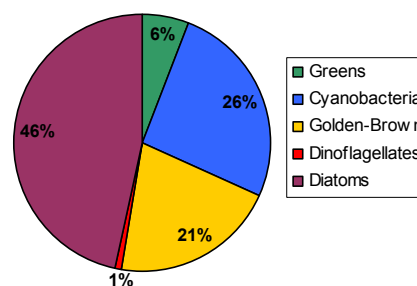
OBSERVATIONS AND RECOMMENDATIONS (Refer to Table 1 and Historical Deep Spot Data Graphic)

- CHLOROPHYLL-A:** Chlorophyll levels were below the NH lake median value, and the 2012 historical average was the lowest measure since monitoring began.
- CONDUCTIVITY/CHLORIDE:** Conductivity levels were low except in Hinkson and Mourton Brooks. However conductivity levels appear to be decreasing slightly in Hinkson Brook.
- E. COLI:** E. coli levels were much less than state standards for public beaches and surface waters.
- TOTAL PHOSPHORUS:** Metalimnetic (middle water layer) phosphorus levels were slightly elevated in July and August possibly as a result of algal growth. Phosphorus levels were slightly elevated in Marshall Brook North potentially due to wetland contributions and relatively low flow in 2012.
- TRANSPARENCY:** Transparency levels were good in 2012 and above the NH lake median.
- TURBIDITY:** Turbidity levels were generally elevated in May. Approx. 0.5 inches of rainfall occurred following a period of dry weather, extremely low lake levels, and low to no tributary flows. Stormwater likely washed loose sediments and/or organics into the tributaries.
- PH:** Deep spot pH levels were lower than desirable and can be critical to aquatic life.
- RECOMMENDED ACTIONS:** Continue working with road agents on implementing low salt zone along Goose Pond Road. The pond is typically subject to cyanobacteria blooms in late summer; continue citizen cyanobacteria monitoring. Continue encouraging local homeowner's to implement stormwater management practices on their properties to reduce stormwater runoff. Keep up the great work!

Dissolved Oxygen & Temperature Profile



Goose Pond Phytoplankton Population



Station Name	Table 1. 2012 Data for GOOSE POND									
	Alk.	Chlor-a	Chloride	Cond.	E. Coli	Total P	Trans.		Turb.	pH
	mg/l	ug/l	mg/l	uS/cm	#/100ml	ug/l	m		ntu	
							NVS	VS		
Brook			4	35.0		6			1.09	7
Beach					1					
Big Island Cove Brook			3	31.5		4	4.25	5	0.61	6.54
Dam Swimming Area				34.9		6			0.47	6.53
Deep Epilimnion	7.98	2.31	4	34.7	1	6	4.75	5.62	0.91	6.43
Deep Metalimnion				34.6		11			0.83	6.36
Deep Hypolimnion				34.8		9			0.96	6.21
Hinkson Brook			5	67.0		12			1.83	6.8
Island View Brook			3	36.3		6			1.67	6.83
Marshall Brook			4	34.5		11			2.37	6.78
Marshall Brook North			3	37.2		17			2.08	6.48
Mourton Brook			9	77.5		7			0.82	6.86

NH Water Quality Standards: Numeric criteria for specific parameters. Results exceeding criteria are considered a water quality violation.

Chloride: < 230 mg/L (chronic)

E. coli: > 88 cts/100 mL – public beach

E. coli: > 406 cts/100 mL – surface waters

Turbidity: > 10 NTU above natural level

pH: 6.5-8.0 (unless naturally occurring)

NH Median Values: Median values for specific parameters generated from historic lake monitoring data.

Alkalinity: 4.9 mg/L

Chlorophyll-a: 4.58 mg/m³

Conductivity: 40.0 uS/cm

Chloride: 4 mg/L

Total Phosphorus: 12 ug/L

Transparency: 3.2 m

HISTORICAL WATER QUALITY TREND ANALYSIS

Parameter	Trend	Explanation
Chlorophyll-a	N/A	More data necessary to establish trend.
Transparency	N/A	More data necessary to establish trend.
Phosphorus (epilimnion)	N/A	More data necessary to establish trend.

This report was generated by the NH DES Volunteer Lake Assessment Program (VLAP). For more information contact:
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Historical Deep Spot Chlorophyll-a, Epilimnetic Total Phosphorus & Transparency Data

